

REMARKS

The Office Action mailed May 9, 2001, has been received and reviewed. Claims 1 through 13, 16, 19, 22, 25 through 27, and 29 through 31 are currently pending in the application. Claims 1 through 6, 13, 16, 19, 22, 27, and 31 are allowed. Claims 7 through 12, 25, 26, 29, and 30 stand rejected. Applicant has amended claims 7, 9-10, 12, 25-26, and 29-30. Applicant respectfully requests reconsideration of the application as amended herein.

35 U.S.C. § 251

Claims 7 through 12, 25, 26, 29, and 30 stand rejected under 35 U.S.C. § 251 as being improperly broadened in a reissue application made and sworn to by the assignee and not the patentee. Applicant respectfully traverses this rejection, as hereinafter set forth.

This rejection is unfounded because the patentee, not the assignee, has made and sworn to both the original Reissue Declaration and the Supplemental Reissue Declaration, copies of which were submitted with the Applicant's Remarks mailed on April 16, 2001. Just as claims 13, 16, 19, 22, 27, and 31 have been allowed over this rejection, so to should claims 7 through 12, 25, 26, 29, and 30. Applicant's Remarks to this rejection which were mailed on April 16, 2001 are incorporated herein by reference.

35 U.S.C. § 251 Improper Recapture Rejection

Claims 7-12, 25, 26, 29, and 30 stand rejected under 35 U.S.C. § 251 as being improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based. Applicant respectfully traverses this rejection, as hereinafter set forth.

By this Amendment, Applicant has amended claims 7, 9-10, 12, 25-26, and 29-30. Independent claim 7 has been amended to include the allowable subject matter recited in the Official Action. Claim 7 specifically recites "a separating apparatus including a first track for receiving integrated circuits from said holding station in said first position, and a second track for

receiving integrated circuits from said holding station in said second position.” Dependent claim 9 is also amended to coincide with the amendment to claim 7. As dependent claims of an allowable independent claim, claims 8 and 9 are also allowable. Applicant respectfully requests the allowance of claims 7 through 9 as amended herein.

Independent claim 10 is amended to include the allowable subject matter noted in the Official Action. In addition, amended claim 10 is not subject to the recapture rule because claim 10 includes subject matter which is narrower than the allowable subject matter of claim 1. Specifically, claim 10 recites “a first track for receiving non-defective integrated circuits from said holding station in said first position an a second track for receiving defective integrated circuits from said holding station in said second position” (emphasis added). The scope of the subject matter of claim 10 relating to “a first track...” and “a second track...” is narrower than that of claim 1 of the ‘164 Patent because the type of integrated circuits received by the respective tracks are defined. Particularly, the first track only receives non-defective integrated circuits whereas the second track receives defective integrated circuits. *In re Clement* specifically indicates that “if the reissue claim is narrower in an aspect germane to a prior art rejection and broader in an aspect unrelated to the rejection, the recapture rule does not bar the claim, but other rejections are possible.” See, *In re Clement*, 45 U.S.P.Q.2d 1161,1165 (Fed. Cir. 1997). Because amended claim 10 is narrower in the aspect which the Official Action contends is germane to a prior art rejection, the recapture rule does not apply, and claim 10 should be allowed. Dependent claims 11 and 12 are also allowable because they depend from amended claim 10 which is in an allowable form.

Independent claims 25 and 29 have been further amended herein to include the limitations cited in the Official Action. Additionally, amended claims 25 and 29 are not subject to the recapture rule because the subject matter of claims 25 and 29, relating to the cited limitations, is narrower than the corresponding subject matter of original claim 1. Specifically, claims 25 and 29 limit the first track to receiving integrated circuits having a first test condition and the second track to receiving integrated circuits having a second test condition, rather than just receiving



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integrated circuits. Because the subject matter of claims 25 and 29 is narrower than the subject matter of original claim 1 the recapture rule does not apply and claims 25 and 29 are allowable. *See, In re Clement*, 45 U.S.P.Q.2d 1161,1165 (Fed. Cir. 1997). Furthermore, claims 26 and 30, which depend from claims 25 and 29 respectively, are also allowable because they are dependent upon allowable claims.

ENTRY OF AMENDMENTS

The amendments to claims 7, 9-10, 12, 25-26, and 29-30 above should be entered because the amendments are supported by the as-filed specification, drawings, original claims and do not add any new matter to the application.

CONCLUSION

Claims 7-12, 25, 26, 29 and 30 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully Submitted,

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Enclosure: Version With Markings to Show Changes Made

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. An integrated circuit testing apparatus for testing an integrated circuit leaving an IC singulation station, comprising:
 - a) a receiving means positioned in a pre test position for receiving the integrated circuit from the IC singulation station;
 - b) a testing site, positioned to secure the integrated circuit after a displacement of said receiving means to a test position, the displacement positioning said integrated circuit in said testing site said test site having a test connection for making physical contact with said integrated circuit when it is secured in said testing site, a circuit test performed on said integrated circuit when it is secured in said testing site; and
 - c) a holding station having a first post test position and a second post test position, said holding station receiving the integrated circuit in said first post test position from the receiving means following a return of the receiving means to said pre test position subsequent to the performing of the circuit test the integrated circuit;
 - d) a first track for receiving the integrated circuit from the holding station when the holding station is in said first post test position and when the circuit test determines that the integrated circuit has a first test condition; and
 - e) a second track for receiving the integrated circuit from the holding station when the holding station is in said second post test position, said second test position attained when said receiving means returns to said test position, said second track receiving the integrated circuit when the circuit test determines that the integrated circuit has a second test condition.
2. The apparatus of claim 1, wherein the holding station further comprises:
a control pin for retaining the integrated circuit in the first post test position, when the integrated circuit has said second test condition, and for releasing the integrated circuit from the first

post test position to said first track when said integrated circuit has said first test condition, and for releasing said integrated circuit from said second post test position to said second track when said integrated circuit has said second test condition.

3. A method for testing an integrated circuit in a testing apparatus after a departure of the integrated circuit from an integrated circuit singulation apparatus comprising the steps of:

- a) moving the testing apparatus to a loading position;
- b) loading the integrated circuit into the testing apparatus;
- c) moving the testing apparatus to a test position to position the integrated circuit for testing;
- d) performing electrical tests on the integrated circuit to provide a tested integrated circuit having identified first and second test conditions;
- e) moving the testing apparatus from the test position to position the tested integrated circuit for unloading;
- f) moving the tested integrated circuit to a first unloading position;
- g) unloading the tested integrated circuit from the first unloading position to a first track when it has said first test condition;
- h) moving the tested integrated circuit to a second unloading position when it has said second test condition; and
- i) unloading the tested integrated circuit from the second unloading position to a second track when it has said second test condition.

4. The method as specified in claim 3, further comprising moving said testing apparatus to said test position during said step of moving the tested integrated circuit to said second unloading position.

5. (Previously Amended) A testing apparatus for controlling positioning of a circuit before, during and after a circuit test is performed on the circuit, the circuit test determining a first and a second test condition of the circuit, the apparatus comprising:

- a) a positioning apparatus having a first port and a second port and a first position and a second position, said first port receiving the circuit for testing;
- b) a testing apparatus for securing said circuit during a testing of the circuit, said positioning apparatus displaced to said second position during testing;
- c) a testing control pin for retaining said circuit in said first port prior to the testing and for allowing a transfer of said circuit from said first port to said second port subsequent to the testing;
- d) a first track for receiving said circuit from said second port when said circuit test finds said circuit to have the first test condition, said positioning apparatus being in said first position; and
- e) a second track for receiving said circuit from said second port when said circuit test finds said circuit to have the second test condition, said positioning apparatus being in said second position.

6. The apparatus as specified in claim 5, further comprising an unloading control pin for retaining said circuit in said second port when said circuit test finds said circuit to have said second test condition and said testing apparatus is in said first position and for allowing a release of said circuit to said first track when said circuit test finds said circuit to have said first test condition and for allowing a release of said circuit to said second track when said circuit test finds said circuit to have said second test condition.

7. (Twice Amended) An integrated circuit testing apparatus for testing an integrated circuit leaving an integrated circuit singulation station, comprising:
a receiving apparatus positioned to receive untested integrated circuits from the integrated circuit singulation station;
a testing apparatus positioned to receive the untested integrated circuits from the receiving apparatus and test the integrated circuits to identify defective integrated circuits and non-defective integrated circuits, said testing apparatus including a holding station moveable with said testing apparatus, a first position, and a second position, said testing apparatus while in said first position allowing tested integrated circuits to proceed to said holding station and allowing untested integrated circuits to be received from said receiving apparatus; and
a separating apparatus connected to the testing apparatus to separate defective integrated circuits from non-defective integrated circuits after testing thereof, said separating apparatus including a [defective integrated circuit track for receiving defective integrated circuits and a non-defective integrated circuit track for receiving non-defective integrated circuits] first track for receiving integrated circuits from said holding station in said first position, and a second track for receiving integrated circuits from said holding station in said second position.

8. The apparatus of claim 7, wherein said testing apparatus while in said second position will electrically test the integrated circuit.

9. (Twice Amended) The apparatus of claim 8, further comprising:
the holding station while in the first position holding defective integrated circuits from proceeding to the separating apparatus, and allowing non-defective integrated circuits to proceed to the [non-defective integrated circuit] first track of the separating apparatus; and

the holding station while in the second position releasing defective integrated circuits to the [defective integrated circuit] second track of the separating apparatus.

10. (Twice Amended) An integrated circuit testing apparatus for testing an integrated circuit leaving an integrated circuit singulation station, comprising:
a loading apparatus for supplying the integrated circuit leaving the integrated circuit singulation station to the integrated circuit testing apparatus;
a receiving apparatus positioned to receive untested integrated circuits from the integrated circuit singulation station;
a testing apparatus positioned to receive the untested integrated circuits from the receiving apparatus and test the integrated circuits to identify defective integrated circuits and non-defective integrated circuits, said testing apparatus including a holding station, a first position, and a second position, said testing apparatus while in said first position allowing tested integrated circuits to proceed to said holding station and allowing untested integrated circuits to be received from said receiving apparatus; and
a separating apparatus connected to the testing apparatus to separate defective integrated circuits from non-defective integrated circuits after testing thereof, said separating apparatus including a [defective integrated circuit] first track for receiving [defective] non-defective integrated circuits from said holding station in said first position and a [non-defective integrated circuit] second track for receiving [non-defective] defective integrated circuits from said holding station in said second position.

11. The apparatus of claim 10, wherein said testing apparatus while in said second position will electrically test the integrated circuit.

12. (Twice Amended) The apparatus of claim 11, further comprising:

the holding station while in the first position holding defective integrated circuits from proceeding to the separating apparatus, and allowing non-defective integrated circuits to proceed to the [non-defective integrated circuit] first track of the separating apparatus;
and

the holding station while in the second position releasing defective integrated circuits to the [defective integrated circuit] second track of the separating apparatus.

13. (Previously Amended) A method of testing an integrated circuit in a testing apparatus having a test site, a holding station, a non-defective integrated circuit track, a defective integrated circuit track, a first position, and a second position, after the singulation of the integrated circuit in an integrated circuit singulation apparatus, said method comprising the steps of:

transferring the integrated circuit from the integrated circuit singulation apparatus;
receiving the integrated circuit at the testing apparatus while the testing apparatus is in the first position;

moving the testing apparatus to the second position;

testing the integrated circuit to identify defective and non-defective conditions of the integrated circuit;

moving the testing apparatus to the first position to allow the tested integrated circuit to proceed to the holding station in a first unloading position while receiving a second singulated integrated circuit into the testing apparatus;

allowing non-defective integrated circuits to proceed to the non-defective integrated circuit track from said first unloading position; and

moving the holding station to a second unloading position and allowing defective integrated circuits to proceed to the defective integrated circuit track.

16. (Previously Amended) A method of testing an integrated circuit after the singulation thereof using a testing apparatus having a test site, a holding station, a non-defective integrated circuit track, a defective integrated circuit track, a first position, and a second position, said method comprising the steps of:

transferring the integrated circuit from the integrated circuit singulation apparatus;

receiving the integrated circuit at the testing apparatus while the testing apparatus is in the first position;

moving the testing apparatus to the second position;

testing the integrated circuit thereby identifying defective and non-defective conditions thereof;

moving the testing apparatus to the first position after testing of the integrated circuit;

allowing the tested integrated circuit to proceed to the holding station in a first unloading position;

receiving a second singulated integrated circuit into the testing apparatus while in the first position;

unloading non-defective integrated circuits to the non-defective integrated circuit track from said first unloading position; and

moving the holding station to a second unloading position and unloading defective integrated circuits to the defective integrated circuit track.

19. (Previously Amended) A method of testing an integrated circuit in a testing apparatus having a test site, a holding station, a non-defective integrated circuit track, a defective integrated circuit track, a first position, and a second position, after the singulation of the integrated circuit in an integrated circuit singulation apparatus, said method comprising the steps of:

receiving the integrated circuit at the testing apparatus while the testing apparatus is in the first position;

moving the testing apparatus to the second position;

testing the integrated circuit to identify defective and non-defective conditions of the integrated circuit;

moving the testing apparatus to the first position to allow the tested integrated circuit to proceed to the holding station in a first unloading position while receiving a second singulated integrated circuit into the testing apparatus;

allowing non-defective integrated circuits to proceed to the non-defective integrated circuit track from said first unloading position; and

moving the holding station to a second unloading position and allowing defective integrated circuits to proceed to the defective integrated circuit track.

22. (Previously Amended) A method of testing an integrated circuit after the singulation thereof using a testing apparatus having a test site, a holding station, a non-defective integrated circuit track, a defective integrated circuit track, a first position, and a second position, said method comprising the steps of:

receiving the integrated circuit at the testing apparatus while the testing apparatus is in the first position;

moving the testing apparatus to the second position;

testing the integrated circuit thereby identifying defective and non-defective conditions thereof;

moving the testing apparatus to the first position after testing of the integrated circuit;

allowing the tested integrated circuit to proceed to the holding station in a first unloading position;

receiving a second singulated integrated circuit into the testing apparatus while in the first position;

unloading non-defective integrated circuits to the non-defective integrated circuit track from said first unloading position; and

moving the holding station to a second unloading position and unloading defective integrated circuits to the defective integrated circuit track.

25. (Twice Amended) An apparatus for testing singulated integrated circuits, comprising:

a testing apparatus movable between a first position and a second position receiving untested integrated circuits while in said first position and identifying first and second test conditions of an integrated circuit while in said second position;

a [separating apparatus] holding station coupled to said testing apparatus and movable between the first position and the second position, said holding station receiving tested integrated circuits from said testing apparatus while in said first position and releasing tested integrated circuits having the first test condition while at said first position and releasing tested integrated circuits having the second test condition while at said second position;

a first track for receiving tested integrated circuits having the first test condition from said [separating apparatus] holding station when said [separating apparatus] holding station is at said first position; and

a second track for receiving tested integrated circuits having the second test condition from said [separating apparatus] holding station when said [separating apparatus] holding station is at said second position.

26. (Amended) The apparatus of claim 25, wherein said testing apparatus and said [separating apparatus] holding station include at least one integral member moveable between said first position and said second position.

27. (Previously Amended) A method of testing singulated integrated circuits in a testing apparatus having a first position, a second position, a first integrated circuit track, a second integrated circuit track, and a holding station, comprising:
receiving an untested, singulated integrated circuit into the testing apparatus while in the first position;

moving the untested, singulated integrated circuit to the second position;
testing the untested, singulated integrated circuit to determine first and second test conditions
thereof;
moving the tested, singulated integrated circuit back to the first position;
allowing the tested, singulated integrated circuit to move to the holding station in the first
position;
receiving another untested, singulated integrated circuit into the testing apparatus while in the
first position;
releasing tested, singulated integrated circuits having the first test condition to said first
integrated circuit track while the holding station is in the first position; and
releasing tested, singulated integrated circuits having the second test condition to said second
integrated circuit track while the holding station is in the second position.

29. (Twice Amended) An apparatus for testing singulated integrated circuits,
comprising:
a loading apparatus for supplying [the] an integrated circuit leaving [the] an integrated circuit
singulation station to [the integrated circuit testing] said apparatus;
a testing apparatus movable between a first position and a second position for receiving untested
integrated circuits while in said first position and identifying first and second test
conditions of an integrated circuit while in said second position; [and]
a [separating apparatus] holding station coupled to said testing apparatus and movable between
the first position and the second position, said holding station receiving tested integrated
circuits from said testing apparatus while in said first position and releasing tested
integrated circuits having the first test condition while at said first position and releasing
tested integrated circuits having the second test condition while at said second position;

a first track for receiving tested integrated circuits having the first test condition from said [separating apparatus] holding station when said [separating apparatus] holding station is at said first position; and
a second track for receiving tested integrated circuits having the second test condition from said [separating apparatus] holding station when said [separating apparatus] holding station is at said second position.

30. (Amended) The apparatus of claim 29, wherein said testing apparatus and said [separating apparatus] holding station include at least one integral member moveable between said first position and said second position.

31. (Previously Amended) A method of testing singulated integrated circuits in a testing apparatus having a first position, a second position, a first integrated circuit track, a second integrated circuit track, and a holding station, comprising:
transferring the integrated circuit from the integrated circuit singulation apparatus;
receiving an untested, singulated integrated circuit into the testing apparatus while in the first position;
moving the untested, singulated integrated circuit to the second position;
testing the untested, singulated integrated circuit to determine first and second test conditions thereof;
moving the tested, singulated integrated circuit back to the first position;
allowing the tested, singulated integrated circuit to move to the holding station in the first position;
receiving another untested, singulated integrated circuit into the testing apparatus while in the first position;
releasing tested, singulated integrated circuits having the first test condition to said first integrated circuit track while the holding station is in the first position; and

releasing tested, singulated integrated circuits having the second test condition to said second integrated circuit track while the holding station is in the second position.